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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR  | ATTORNEY DOCKET NO. | CONFIRMATION NO.       |
|---|-------------|-----------------------|---------------------|------------------------|
| 09/990,754  | 11/16/2001  | Mark T. Feuerstraeter | 42390P11858         | 3376                   |
| 8791  | 7590        | 10/13/2005            |                     | EXAMINER<br>SHEW, JOHN |
| BLAKELY SOKOLOFF TAYLOR & ZAFMAN<br>12400 WILSHIRE BOULEVARD<br>SEVENTH FLOOR<br>LOS ANGELES, CA 90025-1030 |             |                       | ART UNIT<br>2664    | PAPER NUMBER           |

DATE MAILED: 10/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                      |
|------------------------------|------------------------|----------------------|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b>  |
|                              | 09/990,754             | FEUERSTRAETER ET AL. |
|                              | <b>Examiner</b>        | <b>Art Unit</b>      |
|                              | John L. Shew           | 2664                 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extension of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 1/14/2005.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) \_\_\_\_\_ is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-5, 7, 10-14, 16-22 and 24-28 is/are rejected.
- 7) Claim(s) 8-9, 15, 23 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 16 November 2001 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | Paper No(s)/Mail Date: _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>01142005</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

***Drawings***

1. The drawings are objected to because

FIG. 3, reference character "110" identifies the same element as reference character "300". Reference character "110" should identify the XAUI unit.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the

applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Specification***

1. The disclosure is objected to because of the following informalities:

Page 9 line 2 cites "buffers(s) 204" should be "buffer(s) 104".

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 16-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 16 cites "a storage medium comprising content which when executed by an accessing computing device causes the device to implement". The language is considered indefinite since the claim does not clearly set forth the metes and bounds of the patent protection desired. The claim does not clearly identify patent protection area as to the storage medium or to the content which to implement functions.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 3, 4, 5, 7, 19, 20, 10, 11, 12, 13, 14, 21, 22, 16, 17, 24, 25, 26, 27, 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Timm et al. (Patent No. 6055268).

Claim 1, Timm teaches a method comprising identifying a processing capability of a remote device (col. 7 lines 2-5, FIG. 3b, col. 16 lines 9-11, col. 18 lines 40-67) referenced by the Mid-band Digital Subscriber Line of the Central office modem sending probing tones to the remote Mid-band Digital Subscriber Line of the Residential modem to determine identify its line code capability/preference in which the rate negotiation is based on processing power, and slowing an effective data rate within a communication channel with the remote device based at least in part on the processing capability of the remote device (col. 7 lines 16-32, FIG. 1a, col. 8 lines 53-67, col. 18 lines 65-67, col. 19 lines 1-16, lines 62-67, col. 20 lines 1-15) referenced by the reduced rate capability of the MDSL-R for interface to the Voice Band Analog Front End 120 which is a channel of lower frequency than the DSL Analog Front End 110.

Claim 2, Timm teaches wherein identifying the processing capability of the remote device comprises sending a capability request (col. 19 lines 58-67, col. 20 lines 1-15) referenced by the channel probing tones representing the various rate Carrierless AM/PM or Discrete MultiTone messages, and receiving a response to the request denoting at least the processing capability of the remote device (FIG. 7a, col. 22 lines

51-67, col. 23 lines 1-25, lines 58-63) referenced by the Rate Request and Available Rate Notify sent over the Communication Hardware layers 7330 7430.

Claim 3, Timm teaches wherein identifying the processing capability of the remote device comprises receiving an indication from the remote device denoting at least the processing capability of the remote device (col. 18 lines 65-67, col. 19 lines 1-3, FIG. 7a, col. 22 lines 51-67, col. 23 lines 1-25, lines 58-63) referenced by the Rate Request and Available Rate Notify sent over the Communication Hardware layers 7330 7430.

Claim 4, Timm teaches wherein the indication also denotes a communication capability of the remote device (col. 18 lines 65-67, col. 19 lines 1-3, FIG. 7a, col. 22 lines 51-67, col. 23 lines 1-25, lines 58-63) referenced by the Rate Request and Available Rate Notify sent over the Communication Hardware layers 7330 7430.

Claim 5, Timm teaches further comprising establishing at least one virtual channel within the communication channel (FIG. 7a, col. 23 lines 26-36, col. 24 lines 61-65) referenced by the Software Driver layer 7310 7410 communicating through a virtual channel of a DLC which is subsequently encapsulated for transmission over the Communication Hardware Layer using DMT subchannels, each virtual channel having a data rate less than that of a maximum transmission rate of the communication channel (col. 23 lines 9-43) referenced by the Software Driver layer being an upper layer to the Communication Harware Layer and thus has a data rate less than the Communication

Hardware Layer, and wherein the data rate of each virtual channel is based at least in part on the identified processing capability of the remote device (col. 23 lines 31-40) referenced by the number N of kbit/sec channels wherein the N is based on processing capability of the device.

Claim 7, Timm teaches wherein at least the processing capability of the remote device is obtained through auto-negotiation (FIG. 7f, col. 27 lines 11-17) referenced by the overall rate negotiation method wherein the Change Throughput step 7965 modifies the rate according to the remote device capabilities.

Claim 19, Timm teaches wherein the communication channel comprises an Ethernet compatible communications channel (FIG. 2d, col. 11 lines 24-29, lines 60-67, col. 12 lines 1-25) referenced by the support of 10 Base T Ethernet to the customer premises thus the channel is Ethernet compatible.

Claim 20, Timm teaches wherein the slowing the effective data rate within a communication channel comprises injecting idle control elements between successive frames of substantive content (col. 48 lines 39-49) referenced by the transmission of training sequences during idle time between data transmission periods which reduces the data rate.

Claim 10, Timm teaches an apparatus comprising control logic (FIG. 1a, col. 8 lines 53-67, col. 9 lines 1-18, FIG. 1d, col. 9 lines 42-53) referenced by the DSP controlling the multimode modem 100, to identify a processing capability of a remote network device (col. 7 lines 2-5, FIG. 3b, col. 16 lines 9-11, col. 18 lines 40-67) referenced by the Mid-band Digital Subscriber Line of the Central office modem sending probing tones to the remote Mid-band Digital Subscriber Line of the Residential modem to determine identify its line code capability/preference in which the rate negotiation is based on processing power, and a media access controller (MAC) (col. 7 lines 39-46) referenced by the MDSL software controlling the MAC sublayer of the network system, responsive to the control logic to selectively reduce an effective data rate of a communication channel with the remote network device (col. 7 lines 16-32, FIG. 1a, col. 8 lines 53-67, col. 18 lines 65-67, col. 19 lines 1-16, lines 62-67, col. 20 lines 1-15) referenced by the reduced rate capability of the MDSL-R for interface to the Voice Band Analog Front End 120, based at least in part on the identified processing capability of the remote network (col. 6 lines 54-67, col. 7 lines 1-5) referenced by the rate negotiation to maximize throughput based on processing power.

Claim 11, Timm teaches wherein the control logic sends a capability request to the remote device (col. 18 lines 65-67, col. 19 lines 1-10, lines 58-67, col. 20 lines 1-15) referenced by the channel probing tones representing the various rate Carrierless AM/PM or Discrete MultiTone messages, and receives a response to the request denoting at least the processing capability of the remote device (FIG. 7a, col. 22 lines

51-67, col. 23 lines 1-25, lines 58-63) referenced by the Rate Request and Available Rate Notify sent over the Communication Hardware layers 7330 7430.

Claim 12, Timm teaches wherein the control logic receives a broadcast indication from the remote device denoting at least the processing capability of the remote device (col. 7 lines 2-5, FIG. 2g, col. 14 lines 11-38) referenced by the data rate requests transmitted to a Wireless Network Unit from a customer premises modem wherein the transmission are broadcasts over a wireless medium inclusive of the rate negotiation messages.

Claim 13, Timm teaches wherein the MAC is to selectively reduce the effective data rate of the communication channel based at least in part on the identified processing capability of the remote network device (col. 7 lines 16-32, FIG. 1a, col. 8 lines 53-67, col. 18 lines 65-67, col. 19 lines 1-16, lines 62-67, col. 20 lines 1-15) referenced by the reduced rate capability of the MDSL-R for interface to the Voice Band Analog Front End 120 which is a channel of lower frequency than the DSL Analog Front End 110.

Claim 14, Timm teaches wherein the MAC selectively inserts a number of frames comprising idle control elements between successive frames of substantive content associated with a communication with the remote device to reduce the effective data rate of the communication channel (col. 48 lines 39-49) referenced by the transmission

of training sequences during idle time between data transmission periods which reduces the data rate.

Claim 21, Timm teaches wherein the communication channel comprises an Ethernet compatible communications channel (FIG. 2d, col. 11 lines 24-29, lines 60-67, col. 12 lines 1-25) referenced by the support of 10 Base T Ethernet to the customer premises thus the channel is Ethernet compatible.

Claim 22, Timm teaches wherein the MAC to selectively reduce the effective data rate within a communication channel is to inject idle control elements between successive frames of substantive content (col. 48 lines 39-49) referenced by the transmission of training sequences during idle time between data transmission periods which reduces the data rate.

Claim 16, Timm teaches a storage medium comprising content when executed by an accessing computing device (FIG. 1c, col. 9 lines 29-40) referenced by the memory SRAM 184 containing line code programs for execution by the DSP 150 of the modem 100, causes the device to implement a scalable network interface (FIG. 2a, col. 10 lines 45-52) referenced by the Central Office rack of modems, to identify a processing capability of a remote network device (col. 7 lines 2-5, FIG. 3b, col. 16 lines 9-11, col. 18 lines 40-67) referenced by the Mid-band Digital Subscriber Line of the Central office modem sending probing tones to the remote Mid-band Digital Subscriber Line of the

Residential modem to determine identify its line code capability/preference in which the rate negotiation is based on processing power, and to selectively reduce an effective data rate of a communication channel between the accessing computing device and the remote network device based at least in part on the processing capability of the remote network device (col. 7 lines 16-32, FIG. 1a, col. 8 lines 53-67, col. 18 lines 65-67, col. 19 lines 1-16, lines 62-67, col. 20 lines 1-15) referenced by the reduced rate capability of the MDSL-R for interface to the Voice Band Analog Front End 120 which is a channel of lower frequency than the DSL Analog Front End 110.

Claim 17, Timm teaches wherein the scalable network interface reduces the effective data rate of the communication channel by interjecting a number of frames comprising idle control elements between successive frames of substantive content associated with a communication session between the accessing computing device and the remote network device (col. 48 lines 39-49) referenced by the transmission of training sequences during idle time between data transmission periods which reduces the data rate between the Central Office device and the Residential device.

Claim 24, Timm teaches a system comprising first and second network elements capable of intercommunicating (col. 7 lines 2-5, FIG. 3b, col. 16 lines 9-11, col. 18 lines 40-67) referenced by the second network element Mid-band Digital Subscriber Line of the Central office modem sending probing tones to the first network element Mid-band Digital Subscriber Line of the Residential modem, wherein the second network element

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comprises logic to identify receiving rate capability of the first network element (FIG. 1a, col. 8 lines 53-67, col. 9 lines 1-29, col. 18 lines 65-67, col. 19 lines 1-10) referenced by the control logic of the DSP 150 establishing the transmission rate negotiation, and logic to selectively reduce a data rate within a communication channel with the first network element based at least in part on the identified processing capability of the first network element (col. 7 lines 2-5, lines 16-32, FIG. 1a, col. 8 lines 53-67, col. 18 lines 65-67, col. 19 lines 1-16, lines 62-67, col. 20 lines 1-15) referenced by the capabilities determined by throughput based on processing power and reduced rate capability of the MDSL-R for interface to the Voice Band Analog Front End 120 which is a channel of lower frequency than the DSL Analog Front End 110.

Claim 25, Timm teaches wherein the first network element includes a media access controller (col. 7 lines 32-46) referenced by the MDSL software controlling the MAC sublayer of the network system controlling the host miniport driver.

Claim 26, Timm teaches wherein the first network element includes a media access controller capable of processing transmissions at a speed less than that which the second network element is capable of transmitting (col. 6 lines 54-59) referenced by the upstream transmission from Residential to CO at a throughput of up to 400 Kbps and a downstream transmission from CO to Residential at a throughput of 400 Kbbs to 2.048 Mbps.

Claim 27, Timm teaches wherein the first network element comprises logic to identify receiving rate capability of the second network element (FIG. 1a, col. 8 lines 53-67, col. 9 lines 1-29, col. 18 lines 65-67, col. 19 lines 1-10) referenced by the control logic of the DSP 150 establishing the transmission rate negotiation between the CO and Residential modems, and logic to selectively reduce a data rate within the communication channel with the second network element based at least in part on the identified processing capability of the second network element (col. 7 lines 16-32, FIG. 1a, col. 8 lines 53-67, col. 18 lines 65-67, col. 19 lines 1-16, lines 62-67, col. 20 lines 1-15) referenced by the reduced rate capability of the MDSL-C for interface to the Voice Band Analog Front End 120 which is a channel of lower frequency than the DSL Analog Front End 110.

Claim 28, Timm teaches wherein the first and second network elements apply auto-negotiation to determine an acceptable transmission rate for the communication session (FIG. 7f, col. 27 lines 11-17) referenced by the overall rate negotiation method wherein the Change Throughput step 7965 modifies the rate according to the remote device capabilities, and the logic to slow an effective transmission rate is to inject control elements based on the acceptable transmission rate (col. 48 lines 39-49) referenced by the transmission of training sequences during idle time between data transmission periods which reduces the data rate.

***Allowable Subject Matter***

5. Claim 8, 9, 15, 23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Citation of Prior Art***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Patent number 6215816, Gillespie et al. discloses an Ethernet physical layer interface device. Patent number 6559692, Kimball et al. discloses an output driver for a 10baseT/100Base TX Ethernet physical layer line interface. Pub No. US 2004/0003296, Robert et al. discloses an arrangement for reducing power in a networking device configured for operating at selected network speeds.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John L. Shew whose telephone number is 571-272-3137. The examiner can normally be reached on 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on 571-272-3134. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
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